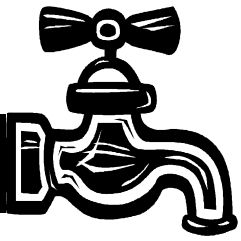
Supply Lines

A newsletter of the NHDES Water Supply Engineering Bureau (WSEB) Spring 2006
on the web at *www.des.nh.gov/wseb*



New Federal Rules for Surface Water and Disinfection

New federal rules adopted in early January are the latest, and probably the last, foreseeable rules intended to provide additional protection from microbial contaminants (primarily *Cryptosporidium*) and disinfection byproducts (primarily trihalomethanes (TTHM) and five haloacetic acids (HAA5)).

The LT2 (short for Long Term 2 Enhanced Surface Water Treatment Rule) and the DBP2 (Stage 2 Disinfectants and Disinfection Byproducts Rule), will be adopted into state rules over the coming months. The good news for water suppliers is that the requirements of the rules will be phased-in over a period of years according to system service population and type (community or non-transient non-community). The LT2 rule applies only to systems with a surface water source, while the DBP2 applies to all systems that add a chemical disinfectant (almost always sodium hypochlorite in New Hampshire).

Systems most immediately affected are those serving greater than 100,000 people and systems that receive wholesale water, of which there are about 12. Several New Hampshire water systems have already initiated monitoring for *Cryptosporidium* because of proactive efforts to address the LT2 as part of recent treatment upgrades.

A central feature of the DBP2 is the Initial Distribution System Evaluation (IDSE), which identifies locations in the distribution system where TTHMs and HAA5s occur at the highest levels. Once again, the IDSE requirement is phased-in over time, with completion ranging from January 2009 for systems serving greater than 100,000 people and those that receive wholesale water to March 2010 for systems serving fewer than 10,000. Systems serving fewer than 500 people, and those with less than 40/30 ppb of TTHM/HAA5, will be exempted from the IDSE requirement.

It is the goal of WSEB staff to keep systems informed well in advance of regulatory deadlines and to make training, training materials and guidance documents available. You can also visit www.awwa.org/Advocacy/govtaff/issues/Issue02_Disinfectants_By-Products.cfm to view a wide range of information.

INSIDE

Loan Sources for Small Water Systems

In the Fall of 2005, the US Department of Agriculture / Rural Utilities Service established two new loan sources available for capital improvements for small public water systems. The funds are administered through the National Rural Water Association (NRWA) and the Rural Community Assistance Program (RCAP). Water systems must be public entities such as towns or districts, or non-profit utilities such as water supply cooperatives and associations. Water systems must also be located in areas with populations under 10,000.

Public health priorities such as arsenic, fluoride and radionuclides treatments, service population below 1,000 persons, and low median household income, may all receive priority scoring for funding eligibility.

Loan amounts may not exceed $100,000 or 75 percent of the total project cost whichever is lower. Applicants can be given credit for documented project cost prior to receiving the loan. Interest rates vary from 4.9 percent to 5.9 percent depending on the term of the loan, which can be up to ten years.

If interested, apply quickly, as only $750,000 is available through each fund for small water systems nationwide! Reported turn-around for loan approval is less than one month and the application process has been simplified for greater accessibility for small systems.

Additional information can be obtained at www.nrwarlf.org and www.rcap.org/rlf/rlf.html or contact Cindy Klevens at (603) 271-3108 or cklevens@des.state.nh.us.

Water Use Registration and Reporting Rules Being Developed

In December 2005, the Department of Environmental Services met with an advisory committee of stakeholders to develop new Water Use and Registration Reporting Rules as required by a new state law, RSA 488–Water Management, which was enacted in 2005 (www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-L-488.htm).

State law requires that any person withdrawing, transferring or discharging more than 20,000 gallons of water per day, averaged over any seven day period, or more than 600,000 gallons of water over any 30-day period, at a single real property or place of business, register the withdrawal, transfer or discharge with the department. The new state law requires DES to adopt accuracy requirements for water use measurements, and allows DES to conduct inspections of facilities to verify compliance with the water use reporting requirements. The Water Use Registration and Reporting program provides the state with important information on the use, availability, and displacement of water resources. It also ensures equitable enforcement of various water withdrawal or wastewater discharge permits. The new law and associated rules will strengthen the ability of the state to require accurate water use reporting and verify and enforce compliance with the Water Use Registration and Reporting Program.

If you would like to review the current draft of the proposed rules, or attend future advisory committee meetings, please contact Rick Chormann at (603) 271-1975 or rchormann@des.state.nh.us.

Lead and Copper Sampling

The assigned quarter for lead and copper sampling is now on the master sampling schedule and lab analysis form which can be found at www2.des.state.nh.us/OneStop/Public_Water_Systems_Query.aspx. Please contact Becky Presby at (603) 271-2516 or rpresby@des.state.nh.us for more information.

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29 Hazen Drive
PO Box 95
Concord, NH 03302-0095
(603) 271-3503

Commissioner	Michael P. Nolin
Asst. Commissioner	Michael J. Walls
Division Director	Harry T. Stewart
Bureau Administrator	Sarah Pillsbury
Editors	Paul Susca
	Jessica Brock

Printed on Recycled Paper

To subscribe contact Jessica Brock
at (603) 271-4071 or jbrock@des.state.nh.us
www.des.nh.gov/wseb

Cross Connection Control and Training

The Water Supply Engineeing Bureau (WSEB) believes that a cross connection control program is one of the most effective methods by which public water supply systems can protect the public's drinking water. There are numerous instances where contaminants have been able to enter a water system, because of backsiphonage occurrences or through unprotected cross connections, which have resulted in serious illness or even death of the water system's customers. Vulnerability assessments have identified cross connection as a potential security risk.

Through New Hampshire Administrative Rule Env-Ws 364 (Cross Connection Control), WSEB requires all public water supply systems to take appropriate actions to prevent backflow occurrences and to eliminate cross connections. Env-Ws 364.02 (a) states that "all public water systems shall have a division approved cross connection backflow prevention program where the system's population is 1,000 or more persons or an equivalent flow." Section 364.02(b) states that "systems serving less than 1,000 people shall take appropriate action to prevent backflow and cross connections; however, an approved plan shall not be necessary." Based on the above, the trigger level to have a division approved cross connection program is 1,000 population or approximately 400 service connections.

A complete cross connection control program requires a carefully planned and executed action plan followed by implementation and constant follow-up. Specific components of a plan include adoption of a local ordinance, identification of potential commercial and industrial sites, survey of identified sites, and installation and periodic testing of high hazard backflow devices.

A cross connection control program cannot be effective without the periodic inspection and testing of the backflow prevention devices that are installed on the water system. These backflow prevention devices are required to be inspected and tested at the intervals specified in Env-Ws 364. This rule also requires that public water supply systems submit an annual copy of the previous year's test results to WSEB each year before April 1st. These test result records help WSEB to evaluate the operation of the public water supply system's cross connection program.

In addition, the vast majority of certified backflow prevention device inspectors in New Hampshire have certificates issued by the New England Water Works Association (NEWWA). The NEWWA certification regulations require that an inspector perform at least 50 tests on backflow prevention devices during the three year certification period. Recent changes to these regulations require the past performance of these tests to be certified by the appropriate state agency (in this case WSEB), when a certified inspector is applying to the NEWWA for re-certification as a backflow prevention device inspector. If copies of the inspector's test results have not been submitted to WSEB, as required, WSEB may not be able to certify to the NEWWA as to whether the required number of tests had been performed by the certified backflow prevention device inspector.

This lack of documentation of an inspector's past testing performance may adversely affect the inspector's application for re-certification by the NEWWA. In some cases the inspector may be required to undergo re-testing (written and/or practical portions of the examination) in order to be re-certified as a backflow prevention device inspector.

WSEB can also be of assistance to a public water supply system in implementing or managing a cross connection program such as providing education for the public regarding the need for implementing a cross connection control program or the need for the regular testing and inspection of the backflow prevention devices that have been installed on the water system.

If you need assistance or have any questions please contact Jim Gill at (603) 271-2949 or jgill@des.state.nh.us.

EPA Product & Tools CD

EPA's Office of Ground Water and Drinking Water (OGWDW) has produced a CD that provides a user friendly one-stop portal for the OGWDW's products and tools that are already in print and on the internet. Topics highlighted on this CD are capacity development, source protection, rules and regulations, water security, and much more.

To obtain a copy of the CD, please call 1-800-490-9198 and refer to EPA #816-C-05-003 or visit www.epa.gov/ncepihom/ordering.htm.

Emergency Planning & Security Corner

Updates and Reminders

√ The Emergency Planning rules have been updated and renumbered from Env-Ws 360.14 to Env-Ws 360.15. Revisions to the rules were minor and do not effect water system emergency plan requirements.

√ Remember to notify the WSEB within 24 hours or sooner of an emergency or security incident. Refer to the laminated Public Water System Notification Card, that the WSEB mailed out in 2004, for contact information or visit www.des.nh.gov/wseb/EmergencyPlanning/pdf/Notification_Card.pdf.

√ Don't forget to periodically update and review your system's emergency plan. One area that is very important but is probably not included in most system's emergency plans is addressing the impact of a pandemic.

Pandemic Preparation

If a pandemic flu should occur, it could infect much of New Hampshire's population and keep much of the work force home. Operators may not be able to come to work for possibly six to eight weeks. Systems need to be prepared as much as possible.

Consider if you lost 50 percent or more of your staff, can your system run on its own and who are your critical employees? Systems should identify operational needs for the most basic functions, consider obstacles to securing those needs and identify necessary resources.

A checklist for businesses is available and can assist in the planning process. The checklist can be found at www.des.nh.gov/wseb/EmergencyPlanning/default.asp. A water system specific checklist is currently being prepared and once its available it will be posted on the same website.

Training and Financial Assistance

√ WSEB provides National Incident Management System (NIMS) training to water system operators through the New Hampshire Water Works Association and the New Hampshire Fire Academy. NIMS is a standardized approach to incident management and response. Developed by the Department of Homeland Security, it establishes a uniform set of processes and procedures and enables responders at all levels to work together more effectively and efficiently to manage domestic incidents no matter what the cause, size or complexity, including catastrophic acts of terrorism and disasters. NIMS certification is required in order for communities to received Homeland Security grants. More information regarding NIMS training, including an on-line certification course, can be found at www.fema.gov/nims.

√ WSEB held a community emergency planning workshop in Concord on November 10, 2005. The workshop was a success with attendance from water systems, local fire and police, local emergency management directors and state health officials. **If a water system is interested in holding a mock emergency drill at their system involving their whole community, funding is available from WSEB.**

√ The Businesses United for Water Security program is up and running. EPA has provided WSEB with $200,000 to protect small drinking water systems from intentional attacks. Water systems will be able to purchase security products and receive grants from the WSEB to pay for installation. Participating businesses who offer discounts to water systems will receive free publicity on the program website. For more information or for an installation grant application visit www.des.nh.gov/wseb/EmergencyPlanning/default.asp. Grant applications must be submitted to the WSEB by September 1, 2006.

√ In 2003 Emergency Interconnection Study Grants were awarded to eight water systems to study water system interconnections as a means to address vulnerability concerns. Later this year the WSEB may be offering a second round of limited matching grants to systems interested in studying emergency interconnection opportunities. For more information contact Johnna McKenna at (603) 271-7017 or jmckenna@des.state.nh.us.

New Documents and Tools

√ The Water Contaminant Information Tool (WCIT) is now available. WCIT is a secure, online database developed by the US Environmental Protection Agency (EPA) that will provide information on contaminants of concern for water security. It contains real-time data on water contaminants to help first responders make better decisions. Users include federal organizations, drinking water and wastewater utilities, state agencies, environmental labs, public health officials, emergency first responders, and technical assistance providers. WCIT contains up to date information on water contaminants including contaminant names, availability, fate and transport; health effects and toxicity; medical information; drinking water treatment effectiveness; potential water quality and environmental indicators; sampling and analysis, and helpful response advice for utilities. Water Information Sharing and Analysis Center (WaterISAC) subscribers have free access without any further approval. More information regarding WCIT can be found on EPA's website at www.epa.gov/safewater/security.

√ The Simple Tools for Effective Performance (STEP) Guide Series booklet which was produced by EPA's Water Division is a voluntary water security guidance for very small community drinking water systems. The goal of this guide is to help small systems understand the basics of water system security including Vulnerability Assessments, Emergency Response Plans, and practical actions to improve system security. To obtain your free copy of this booklet visit www.epa.gov/safewater/watersecurity/pubs/very_small_systems_guide.pdf.

For any questions regarding any water system security or emergency planning issues please contact Johnna McKenna at (603) 271-7017 or jmckenna@des.state.nh.us or visit www.des.nh.gov/wseb/EmergencyPlanning/default.asp.

Certification of Chemicals and Products

The safety of water treatment chemicals and component materials has been historically a constant concern in the drinking water profession. Prior to the 1980s the US Environmental Protection Agency (EPA) would certify certain products, particularly new products, as safe to use. Generally, only new products were evaluated and products in common use were assumed to be safe.

The EPA recognized that a more formal approach was needed. In the early 1980s, EPA provided seed money to a consortium of professional water works groups to develop a voluntary, third party testing protocol to certify the safety of both treatment chemicals and water system components. The consortium developed a series of testing protocols, submission standards and evaluation policies to achieve a uniform national program. The certification procedure includes both a scientific evaluation of the formulation of products and an inspection of the production and distribution facilities.

The certification procedures have been incorporated into those of the American National Standards Institute (ANSI). ANSI Standard 60 pertains to the for the purity of water treatment chemicals and ANSI 61 applies to the purity of drinking water system components that are in direct contact with potable water. Two well respected organizations are currently involved in this certification process: the Underwriters Laboratory (www.ul.com) and the National Sanitation Foundation (www.nsf.org).

How does this apply to you as the owner or operator of a public water system (PWS)? PWSs in New Hampshire need to purchase and only use chemicals and water system components that carry the ANSI 60/61 certification per NH Administrative rule Env-Ws 305 (www.des.nh.gov/rules/desadmin_list.htm). For more information about this New Hampshire's certification program policy visit www.des.nh.gov/factsheets/ws/ws-6-10.htm

For more information on drinking water treatment chemicals and drinking water system components that are ANSI 60/61 certified, visit the web sites identified above or contact the Water Supply Engineering Bureau at (603) 271-2513.

WSEB Re-adopts Eleven Rules

On November 30, 2005, the Water Supply Engineering Bureau (WSEB) re-adopted 11 rules. These rules had to be re-adopted because agency rules are only effective for eight years. The following is a list of rules that were re-adopted with a list of substantive changes made to them.

Env-Ws 301-308: Introduction to Public Drinking Water Rules

- Waivers of any rule (301.05).
- Sanitary Survey (306).
- Point of Entry (308).
- Point of Use (308.04-308.10).

Env-Ws 310-316: Drinking Water Quality Standards

- Bottled water requirement deleted (310.02).
- Unregulated contaminants removed.
- Inorganics - Arsenic and Fluoride section reworded (314). and
- Organics – coincide with waiver (315).

Env-Ws 341-349: Variance, Exemption, and BAT Rules

- More detail for exemptions (343) and flow mix (344.01).

Env-Ws 360-362: General Operational Requirements for Public Water Systems

- Identifies specific dates when emergency plans are due (360.15).

Env-Ws 364: Backflow Prevention

- Eliminates water systems having to submit an annual report on hazard devices.
- Maintains the annual report for the devices tested.
- Annual testing report due date changed to April 1.

Env-Ws 370: General Design Standards: Systems Serving 1,000 or More People

- Cross references the Great Lakes Upper Mississippi River standards.

Env-Ws 372: Design Standards for Small Community Public Water Systems

- Separates the requirements between community and non-community systems.
- Uses methods to estimate populations.
- Defines when a water system is to be considered as a public water supply (PWS).
- Provides calculated design flows.
- Includes provisions for using variable speed pumps.
- Requires at least two sources when the water system's design flow exceeds 13,500 gallons per day.

Env-Ws 373: Design Standards for Non-Community Public Water Systems

- Separates the requirements between community and non-community systems.
- Provides calculated design flows.

Env-Ws 374-377: Design Standards for Large Public Water Systems

- Revises the "adopted by reference."
- Requires standby power except when adequate alternate backup supply.
- Calls for total developed groundwater source capacity to be equal to or greater than the design maximum day demand and equal to or greater than the design average day demand with the largest producing well out of service.

Env-Ws 386: Protecting the Purity of Regulated Watersheds

- No substantive changes.

Env-Ws 393: Public Water Supply Grants

- Provides grants for interconnection and groundwater investigation projects in addition to the pre-existing surface water treatment grants.
- Defines eligibility for the interconnection and ground water investigation grants.
- Establishes an application procedure and a priority ranking for the interconnection and groundwater investigation grants.

If you would like a copy of any of these rules, please visit www.des.nh.gov/rules/desadmin_list.htm. Future rulemakings and rule readoption consist of the following:

- Env-C 510-522: State Drinking Water Revolving Loan Fund Program

Rulemaking

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Enforcement Activity in 2005

Ensuring that public water systems stay in compliance with state and federal regulations is an important role of the Water Supply Engineering Bureau (WSEB). To help systems remain in compliance, WSEB offers many types of assistance such as training seminars, telephone and field technical assistance, fact sheets, monitoring reminder postcards, financial assistance, and more. Occasionally, however, contamination issues or repeated violations of other regulations require WSEB to take enforcement action.

In 2005, WSEB issued 196 letters of deficiency (LODs) to public water systems. A LOD is a formal letter, sent by certified mail, that identifies violations of specific regulations, and requests the water system owner to bring the system back into compliance within a specified time period. The largest group of LODs (99) was issued in response to repeated bacteria MCL and monitoring violations.

WSEB also issued three administrative orders in 2005. Administrative orders are generally issued in response to particularly serious violations, or when a system continues to incur violations after receiving an LOD. An administrative order is a legally enforceable document that requires the water system owner to accomplish specified actions within a specific timetable. Failure to comply with an administrative order may result in an administrative fine, or the referral of the case to the Attorney General's Office. Most administrative orders are recorded with the proper county registry of deeds to alert potential property buyers and financial institutions to outstanding compliance issues at the water system.

Administrative fines impose a monetary penalty for regulatory violations and are generally reserved for more egregious violations. Although no new administrative fines were imposed in 2005, payments totaling $8,775 for previously issued fines were collected during the year.

WSEB also has the authority to require public water systems to issue boil orders for a variety of situations, with the discovery of *E. coli* or fecal bacteria being the most common reason. In 2005, WSEB required 25 water systems to institute a boil order. Commendably, two additional systems voluntarily instituted boil orders when they discovered situations that could lead to bacterial contamination, even though contamination had not been found. The total number of boil orders in 2005 was more than twice the number experienced in 2004. Several, but not all, of the additional boil orders are believed to be related to the extraordinarily heavy rains that fell in October.

For more information on enforcement issues, please contact Alan Leach at (603) 271-2854 or aleach@des.state.nh.us. LODs, administrative Orders, and administrative Fines issued by DES programs can be viewed on-line at www.des.nh.gov/legal/documents.

Radionuclides

The Water Supply Engineering Bureau has created a guidance document which describes how to reduce the concentration of radionuclides in drinking water; and explains methods in which wastewater containing radionuclides from backwashing water treatment systems may be managed and disposed of in a safe and lawful manner.

For more information, or to obtain a copy of the guidance document, contact Brandon Kernen at (603) 271-0660 or bkernen@des.state.nh.us or visit www.des.state.nh.us/factsheets/ws/ws-22-21.htm.

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Rulemaking

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- Env-Ws 420: Groundwater Reclassification
- Env-C 300: Laboratory Certification
- Env-Ws 421: BMPs for Preventing Groundwater Contamination
- Env-Ws 1500: Groundwater Discharge Permit and Registration
- Env-Ws 389 Groundwater Sources of Bottled Water
- Env-Ws 378 Site Selection of Small Production Wells for CWS
- Env-Ws 379 Site Selection of Large Production Wells for CWS
- Env-Ws 363 Capacity Assurance for Existing PWS
- Env-Ws 371 Capacity Assurance for Proposed PWS
- Env-We 100-1000 Water Well Board
- Env-C 400 Water Use Registration and Reporting Rules (New)
- Env-Ws 382 Stage 2 Disinfectant/Disinfection Byproduct Rule (New federal requirements, must be adopted by 12/07)
- Env-Ws 380 Long Term 2 Enhanced Surface Water Treatment Rule (New federal requirements, must be adopted by 12/07)

If you would like to be notified of new rulemakings, please contact Debra Sonderegger at (603) 271-2962 or dsonderegger@des.state.nh.us.

Land Protection

The Water Supply Land Grant Program provides funds to municipalities to help them buy land around their public water supply. The conservation of land around a water supply has been found to be the most effective way to protect a drinking water source. This grant program will match up to 25 percent of the amount of the appraised value of land in a wellhead protection area or within five miles of a surface water intake. In February 2006, $1 million was granted to six municipalities. Another grant round will start in the fall of 2006 for $1.5 million. If you would like more information on this program please visit www.des.nh.gov/dwspp/acqui.htm or contact Karla McManus at (603) 271-3114 or kmcmanus@des.state.nh.us.